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ORIGINAL ARTICLES.

A THIN FIXED MEMBRANE, PROBABLY CONGENITAL, SPRINGING FROM THE RETINA INTO THE VITREOUS AND COVERING THE OPTIC DISK.

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MEMBRANES in the vitreous of a congenital kind, or at least not the result of any demonstrable pathologic process, are, aside from the remains of the hyaloid artery, of rare occurrence. In the *Ophthalmic Record* for January, 1897, I published an account of a case of this nature, in which the membrane arose from the optic nerve, and, passing forward, was lost in the depths below the lens. The media and the fundus were otherwise normal, but vision was reduced to the ability to discern large objects. There had been a tendency on the part of that eye to turn in since infancy, and there was now no power of fixation.

Quite recently another case of somewhat analogous character came under my observation, which, I believe, has sufficient interest to warrant it being placed on record.

It occurred in the person of a physician, 34 years of age,

who has used his eyes for rather close study all his life. He has also used his right eye for target practice, though he thinks the eye has never been so good for distant vision as the left. So far as he knows, there never has been any injury or other pathologic process in that eye, and the cause of the present examination was some pain in the eyes after prolonged study, and due, no doubt, to his refraction error which had never been corrected. The right eye was under mydriasis when I first saw him, and V=$^{5}/_{20}$. There was a corneal astigmatism 1 D. obliquely placed, as shown by the ophthalmometer, and the shadow test gave about the same amount of myopic astigmatism. With —1 ax. 135° V=$_{5/10}$+.

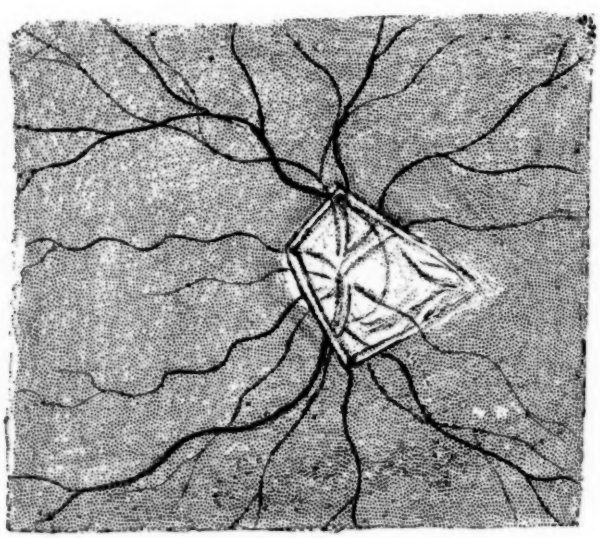

FIG. 1.

In the left eye, V $^{5}/_{6}$, which, with —0.5 ax. 90°, was increased to $^{5}/_{5}$. The media in the right eye were all clear, and the fundus showed no change from a normal condition, save a thin veil which covered the whole of the optic disk, except a small segment down and out, and some surrounding space above, below and to the nasal side. This veil has the form of a quadrilateral of unequal sides and angles. The two temporal sides and the adjoining portions of the sides above and below were straight and as clearly cut as a knife edge.

These edges curled over for a short distance and the corners corresponding to the angles were nicked. The upper and lower edges tended to a point, but gradually faded away into the surrounding tissue at about one disk diameter from the nasal edge of the disk and slightly below. The film was not floating and lay either on the disk or only a short distance in front of it. Through this film all the vessels on the disk could be seen, but with blurred outlines. As soon as they appeared from under its sharp edge they stood out with

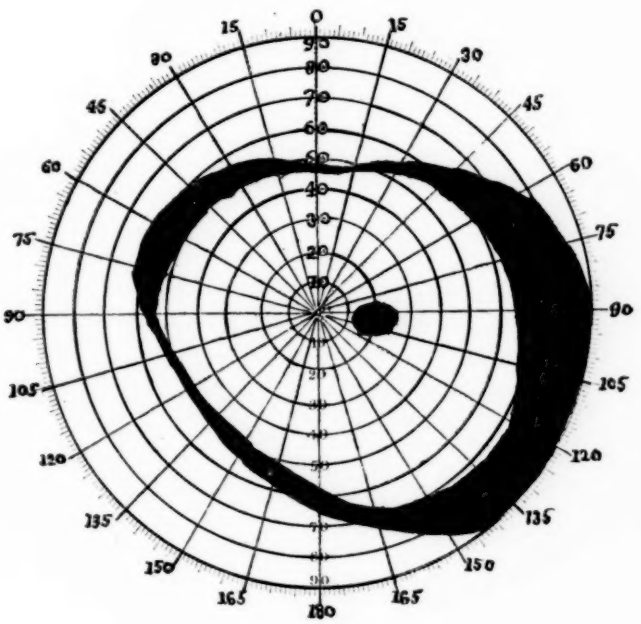

FIG. 2.

normal distinctness. There was nothing abnormal as to their size or course, except that the veins coming from the macula lutea region seemed a little more tortuous than normal. (Fig. 1). A careful examination of the visual field revealed a considerable restriction to the temporal side, and the "blind-spot" was somewhat larger than we usually find it, being about 10° in diameter, whereas, commonly it does not measure more than 6°. (Fig. 2).

These congenital films in the vitreous, according to Treacher Collins ("Researches into the Anatomy and Path-

ology of the Eye," London, 1896), would seem to be due to some irregular development of the mesoblast tissue, which normally passes in at the ocular cleft to form the vitreous humor. They are usually associated with some other manifestations of defective development, but seldom so little as is evident in this case. The greater amount of astigmatism in that eye, the restriction of the visual field to its temporal side, and the increased size of the "blind spot" should perhaps be counted in that category.

HETEROPHORIA, AND THE INDICATIONS IT GIVES FOR TREATMENT.*

BY EDWARD JACKSON, M. D.

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HETEROPHORIA is revealed, only by its special tests. When it ceases to be heterophoria and becomes actual strabismus, the diplopia becomes characteristic. Short of this its symptoms are much the same as may arise from ametropia, and more general causes influencing the nervous system, and hence are not characteristic. When found in the absence of other causes they might be taken as suggesting heterophoria, but the suggestion has very little weight until the appropriate tests have revealed an actual lack of balance in the ocular muscles. When heterophoria has been demonstrated, and all other causes for these symptoms excluded, they may become the essential indications for special treatment.

Heterophoria is not of itself a sufficient indication for special treatment. It occurs a great many times without having any significance as an indication for therapeutic measures; and in a still larger number of cases, the only important indication it gives is in the direction of correcting ametropia.

In the last 1000 cases of eye-strain seen in private practice, in all of which the muscle balance was carefully tested, heterophoria of one-half centrad or upward, was found in 714. In 287 of these, the heterophoria amounted to two

*Read before the Colorado Ophthalmological Society, Oct. 18, 1902.

centrads or upward, yet in the vast majority complete relief was afforded without any treatment whatever, directed to the heterophoria. In only six cases was operative treatment advised, and in but three was it carried out.

Heterophoria as an indication for lenses. In the above series 398 cases showed esophoria being more than 55 per cent. of all the heterophorias.

In probably 50 per cent. of all the cases of heterophoria its principal significance was, as an evidence of hyperopia requiring correction.

In the same way exophoria, especially the higher degrees, must be regarded as dependent on myopia. This is true even when the exophoria demands direct operative treatment.

But the connection of heterophoria with ametropia is quite as real and important in other instances that are not so generally recognized. In some cases of myopia, with marked esophoria, it seems certain that the excessive turning in of the eyes is a result of their habitual use at an excessively near point.

In some cases of hyperopia, exophoria seems to arise as a symptom of eye-strain due to the hyperopia. In the same way astigmatism may cause heterophoria, and anisometropia is especially likely to be attended with variable heterophoria. Heterophoria arising in this way has much the same significance as headache, vertigo, congestion, or other symptoms of eye-strain. It constitutes an added reason for correcting the ametropia.

Exophoria occurring with myopia is an additional reason for giving full correcting lenses. In a hyperope, however, it would be a reason for not giving a full correction. Marked esophoria with low hyperopia indicates that it is especially important to give correcting lenses for constant use. Esophoria in connection with myopia emphasizes the importance of lessening the amount of near work; or giving it up altogether while the eyes are becoming accustomed to correcting lenses. In a sense the meeting of such indications is a treatment of the heterophoria. In a very large proportion of cases it gives relief; and is all the treatment required.

The degree of heterophoria. This in itself by no means determines what treatment should be adopted, or whether any

direct treatment is required. Very low degrees, 0.5 centrad or less, may be regarded as physiological in most cases; or as showing some temporary disturbing influence, rather than a permanent defect in the coördinated movements of the two eyes. But on the other hand very high degrees of heterophoria, which do not run into actual deviation, (intermittent strabismus) are liable to be temporary. Sometimes they may arise by exaggeration of a permanent defect. In other cases they may be entirely acute, following especially some temporary eye-strain. Not only is this true of esophoria and exophoria, hyperphoria may also be of this character.

Miss G., aged 16, with moderate hyperopic astigmatism and no indication of any hysterical tendency, after a period of excessive eye work was found to have a right hyperphoria of from 10 to 15 centrads. The vertical deviation and recovery of the eyes, upon alternately covering them, was very striking. Diplopia could be produced, and with the cobalt glass could be continued indefinitely. But she gave no history of spontaneous diplopia, and the symptoms complained of, especially the headache, seemed to be quite recent. Under a mydriatic the heterophoria fell in three days to three centrads or less. The constant wearing of correcting lenses,

R + 0.75 s. ⌒ + 0.50 cyl. axis 90°.

L + 0.87 s. ⌒ + 0.25 cyl. axis 90°.

without any prism, gave relief from all symptoms including the heterophoria. Cases of marked hyperphoria of this kind are rare; but such high exophoria or esophoria, temporarily arising from eye-strain, is not very uncommon.

Permanence of the heterophoria.—This is a more valuable indication than the amount or degree. Temporary heterophoria never requires direct treatment, and it has only the general significance of a symptom of eye-strain or nervous disease. Before accepting heterophoria as having any especial importance in the case, the surgeon must assure himself that it has some degree of permanence. This may be suspected from the case history and general features, but can only be demonstrated by repeated tests. If the same heterophoria be found on successive days, with and without a cycloplegic, this may be sufficient evidence of permanence to justisfy its consideration, as an indication in the selection

of glasses. But many more tests, extending over a much longer period (from 3 to 6 months) are required to justify anything like operative interference. The permanence of heterophoria is often very striking. I have cases in which it has continued substantially the same for periods of ten to fifteen years. But no degree of permanence should alone be considered to require its treatment.

It may exist throughout life, without causing inconvenience, harm or danger of any sort.

Diagnosis by exclusion.—It will naturally be asked, if the presence, associations, degree and permanence of heterophoria do not furnish positive indications for treatment, what can? In the present state of our knowledge, reliable conclusions can only be reached by the process of excluding other possible factors in the case. The heterophoria that requires especial treatment must be the expression of an organic or permanent functional mal-adjustment in the nervous system. There is nothing to show that defects in the muscles themselves prevent them from effectively executing properly proportioned nerve impulses except as excessively rare anomalies. and a readjustment of the muscles to balance the mal-adjustment of the nerve impulses should only be undertaken when all other modes of treatment have been tried.

The exclusion may begin with the correction of ametropia. This should be followed by careful training in the use of the eyes and graduated exercise. After these, special gymnastics, prism exercises, etc., may be resorted to, but their field of usefulness is not a very wide one. The process of exclusion must be carried on in the direction of causes for general ill health, as acute disease, chronic mal-nutrition, etc. Tonics, and especially strychnia, in ascending doses, should be tried under this head.

Treatment by prisms.—The wearing of prisms which will allow the eyes to assume approximately their position of rest without giving rise to diplopia, is a remedy easily tried; and one that can be discontinued at any time with no risk of harm to the patient. In the great majority of cases of heterophoria, glasses are needed to correct ametropia so that the trial of a prism, in combination with the lens, can very readily be made.

In view of this, it is not necessary or advisable in most cases, to carry the process of exclusion to completion before taking up the treatment by prisms. If a few trials show a fairly constant heterophoria, there is no reason why a prism of moderate strength (two centrads or less) tending to correct a portion of the heterophoria, should not be incorporated with the lenses prescribed. The older the patient, the sooner the prism may be resorted to and the greater the certainty of benefit from its use. Temporary heterophoria is much more likely to occur in children; and in children there is the greatest reason to hope for the establishment of orthophoria by correcting lenses and proper methods of using the eyes. Hence, in children and young people one should be slower to prescribe the constant wearing of prisms.

The proportion of the heterophoria to be corrected by prisms also grows with age. In elderly people it is often well to give prisms equal in strength, to the full minimum of heterophoria. In children and young adults, and even in middle-aged persons whose eyes may be temporarily worse on account of strain, the prisms should not correct all the defect, but one-half to three-fourths this amount.

The strength of prism that can be used without causing unpleasant effects, distortion or chromatic aberration, limits the usefulness of this line of treatment for the higher degrees of heterophoria; and one who does not need to wear glasses for anything else may well weigh the inconvenience of permanently wearing them against the disadvantage of an operation. The prism of one centrad or less before each eye, if indicated, will almost always be worn without inconvenience. One of three centrads, or upward, always causes some distortion, and adds notably to the thickness and weight of the glass.

Patients will not always accept such prisms. Sometimes, however, a prism of double that strength is comfortably worn before each eye. Beyond six centrads very few patients can go, except for temporary use, as in near work.

Some special difficulties about the use of decentred lenses and prisms in connection with cylindrical lenses I have discussed elsewhere (*Ophthalmic Record*, January, 1902). All that can be said of prisms applies equally to prismatic effects

secured by the decentring of lenses. Even where we believe that operation will ultimately give the best relief, prisms should be tried for many weeks or months. The patient should have the benefit of any chance of escaping operation, and of what can be learned of the case by watching the effect of prisms. Of my last hundred cases of heterophoria of two centrads or over, prisms were worn either temporarily or permanently by 42.

Operations.—An operation for heterophoria is a step which once taken can never be retraced. It is a crude measure. By disturbing the insertion of the ocular muscles it attempts to correct a false co-ordination of nerve impulses. These considerations should make operation the treatment of last resort, to be undertaken only in exceptional cases, after the most thorough study and careful weighing of the probability of affording relief. Resorted to with the proper caution, operation for heterophoria is justified. It is justified by the severity of the symptoms, and the extent of the disability caused; by the impossibility of relieving the patient by any other means, and by the results attained through operation.

When all other means have been tried and have failed to give relief, which of the residue of unrelieved patients should be submitted to operation? Rigid rules cannot be laid down. Each case must be considered by itself. I have never operated for less than six centrads of heterophoria, but I can conceive of a case, with two-thirds or one-half that amount, which might properly be submitted to operation. Still not all cases with ten centrads or more of heterophoria, unrelieved by other measures, should be operated upon. The above figures refer to the minimum of heterophoria found constantly present.

Exophoria seems to be most amenable to operative treatment. It is in a larger proportion of cases a comparatively passive condition. Esophoria is more frequently spastic, yielding only to operations frequently repeated, which may seriously cripple the movements of the eye. The correction of hyperphoria by operation involves disturbance of the rotation of the globe about its antero-posterior axis, and on that account must be undertaken with doubled caution. Then most cases of hyperphoria are capable of relief by prisms.

The freedom and extent of the ocular movements, as determined by the tropometer, or the field of fixation, as tested by a moving object, or upon the perimeter by the reading of small letters, must be carefully considered before deciding as to operation. The so-called abduction and adduction (prism divergence and prism convergence) should be taken into account. A marked excess of abduction (prism divergence) is a decided indication for operation in exophoria. A general deficiency or feebleness of the movements in all directions, without any decided proportionate excess of movement in the direction of the heterophoria, should make one very cautious about operating. Great variability in the degree of heterophoria, even though the minimum be above the limit that justifies operation, is another reason for caution. It means that the foundation for operative interference is shifting and uncertain. The effect of operation is very likely to be swallowed up; or it may be rendered harmful, rather than helpful, by the unstable nerve impulses.

The Operation to be done.—Generally I do tenotomy—a complete tenotomy. The only exceptions to this are the advancement of the externus for esophoria, and lateral displacement of the tendon in some cases of hyperphoria, or where vertical and lateral tendencies are combined. As to partial tenotomy—division of the center of the tendon only—I believe it has no permanent effect unless the division be carried so close to the edges of the tendon that these subsequently give way under the unnatural stress that is put upon them, and the inflammatory softening that follows the wound. It seems more rational to get the full effect of an operation at once than to leave this to be determined by an uncertain process of stretching subsequently. I would not submit any case to operation in which a complete tenotomy was likely to produce an excessive effect.

The possession of the power of binocular fusion renders the effect of an heterophoria operation totally different from that of an operation for actual strabismus. In the presence of binocular vision nature makes great efforts to restore the original status of the eye movements, efforts which are not encountered after an operation for strabismus. In general, immediate over-effect and decided limitation of movement are

to be aimed at, except in tenotomy for esophoria. Knowing the usual behavior of these cases after operation, it is more reasonable to plan the operation for its ultimate effect, although one may take as a guide the immediate effect, as shown by tests at the time, without seeking to make the immediate effect identical with that ultimately desired.

Repeated operations.—Even when done as above indicated, after the most patient study of the case, operations for heterophoria will sometimes need to be repeated. The conservative operator will always prefer to err on the side of insufficient effect, and when a first operation shows decided gain, but short of complete relief, a second may be done, usually on the other eye, planned with the aid of the additional knowledge gained by the first operation. But many repetitions of operative interference tend to show that the operations done have not been wisely planned. Relief not gained by a first or second operation has rarely been reached by subsequent repetitions. One or two failures in this direction should be taken as a very strong indication for not making further attempts. Not even for the combination of lateral and vertical heterophoria are many operations necessary. Both tendencies can generally be largely overcome by a single well-planned operation on the right muscle.

Operative suggestion.—Nothing has been said about operation as a means of mental suggestion for hysterical and neurasthenic patients. I have never resorted to it for this purpose. It may be justifiable in some cases. But in considering such a thing it should be borne in mind that even if the immediate effect be good, this result may be only temporary; and the patient will be left more open to adverse suggestion from some other quarter. If the immediate effect be not good the patient will certainly be in worse condition, and liable to connect his or her subsequent symptoms with the operative failure.

Summary.—Heterophoria cannot be recognized by any subjective symptoms. When shown by appropriate tests it does not necessarily require special treatment. In a majority of cases it is chiefly valuable as an indication with regard to the wearing of lenses. Its degree does not tell whether it will require treatment or not. Its permanence is a more im-

portant, but not conclusive indication. If constant, it may be partly or wholly corrected by prisms, especially in elderly people.

Before resorting to operation, correction of ametropia, careful use of the eyes, graduated exercise, special gymnastics, the removal of all cause of ill-health, and general tonics should be patiently and persistently tried. The operation of preference would be tenotomy for exophoria, advancement of the externus for esophoria, and lateral displacement with tenotomy when vertical deviation is present. Operations should not be frequently repeated; and they are of doubtful propriety as a means of suggestion.

A CASE WHICH DEMONSTRATES THE VALUE OF RADIOSCOPY IN OPHTHALMOLOGY.

By FRANK L. HENDERSON, M.D.

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BOURGEOIS, in a late number of *La Clinique Ophtalmologique*, took the position that radioscopy is of little, if any value in ophthalmology. In the same journal of January 10, 1902, Terrien disputes the statements of Bourgeois, and cites a most interesting casé in which radioscopy was not only of service, but of more service than radiography could have been in the same case. In *La Clinique Ophtalmologique* of February 10, 1902, Bourgeois again takes the position that radiography must be resorted to in the vast majority of cases, and that radioscopy is of little practical value. Just after reading the above controversy a case occurred in my practice in which the simpler method of radioscopy so completely met all requirements that I am prompted to report it.

On April 5, 1902, L. M., aged 12, had his left eye injured by the explosion of a cap in an ordinary cartridge. Vision had never been much impaired and no pain had ever been felt. On June 5, he was brought to me to explain the presence of a tumefaction which had lately developed in the upper and outer scleral quadrant. Examination revealed a red, swollen area, between the external rectus and superior rectus muscles, extending from the limbus back to the fornix.

The pupillary margin of the iris had been carried backward and outward to its scleral circumference, at a point about 30 degrees above the horizontal meridian, and had become adherent in a cicatrix there, producing a pointed coloboma. There was no evidence of any irritation of the iris or ciliary body, and no involvement of the conjunctiva, except in the region of the tumor. The lens was transparent and vision was $=^{6}/_{27}$.

The fundus was normal, except far forward under the tumor a steel gray spot was seen, but owing to its anterior position nothing definite regarding it could be determined. From the wound of the iris and appearance of the fundus it was more than probable that a foreign body had penetrated the interior of the eye. There was no evidence of a wound of exit, and the physician who brought the boy to me declared there never had been one. The evidences of the presence of a foreign body seemed complete, but for the sake of confirmation it was decided to resort to radioscopy. The use of a Kinradie coil, X-ray machine was secured. It was the left eye which was injured. The tube was placed on the right side of the head. By a one-eighth turn of the face toward the tube a position was secured which presented the least bone interference. Then by a strong adduction of the left eye the tumor was drawn from behind the edge of the malar bone. An assistant was then instructed to point with his index finger (a metal probe would have been better) toward the spot where it was most probable the cap was lodged. With the fluoroscope a round black spot was plainly seen in front of the pointing finger.

Under chloroform anæsthesia an incision was made through the tumor, along the upper border of the external rectus muscle. The tissues were much thickened, but the cap was soon found under the upper border of the external rectus, near its attachment and lying in a wound of the sclera. Healing was uninterrupted. Two weeks after the removal of the foreign body the episcleral swelling had so subsided that a scleral cicatrix could be seen extending from the limbus to the point where the cap was found.

Copper is most destructive when retained within the eye. Though this piece tore through the iris and ciliary body, it

must have passed far enough through the sclera for a plastic exudate to shut off its connection with the delicate and susceptible internal structures, or in two months the eye would have been destroyed. The interesting point in the case is the ease and simplicity with which radioscopy made the diagnosis absolute. A radiograph would have added to the patient's expenses, and would have necessitated a delay of several days and could not have revealed more than the simpler method.

THE PREVENTION OF THE BLENNORRHŒA OF THE NEWLY BORN BY MEANS OF CREDÉ'S METHOD.*

(From the Obstetric Clinic at Dresden.)

BY PRIVY-COUNCILOR PROF. G. LEOPOLD.

(*Translated by A. Alt, M.D.*)

TWENTY years have elapsed since Credé published his epoch-making discovery, "how to prevent with certainty the blennorrhœa of the newly born by means of the instillation of one drop of a 2-per-cent. solution of nitrate of silver." Yet, in spite of the long time which has elapsed and in spite of the extraordinary good accomplished by this method, it has not yet been generally adopted.

What a difference between then and now in the obstetric clinics! At the end of the seventies there was probably no clinic which did not, in a separate room, show one or more of these unfortunate infants, who were in danger to be blind for life. It made one shudder to enter such a room. And, but a few years later, beginning with 1884, this notorious room had disappeared from the obstetric clinics as if by magic. Physicians and nurses were relieved when this plague had disappeared. Blennorrhœa of the eyes did no longer exist, and appeared only in rare and exceptional cases, and every clinic which wanted to obtain such brilliant results made use of the 2-per-cent. nitrate of silver solution and the glass rod, two things which are as simple as could be desired.

After the first publications concerning the results obtained by Credé's method one might have hoped that it would be

*Berliner Klin. Wochenschr., 1902, No. 33.

speedily and generally accepted. When, however, this expectation was mentioned in a private talk, Credé did not share such a hope. The experiences he had made with his method of removing the after-birth, which it took twenty years to be generally adopted, had taught him that a new generation of young physicians and nurses would have to be educated and to have seen his success before the ground would be sufficiently prepared for a general implantation of the new method.

He was right, indeed. Although the ophthalmo-blennorrhœa of the newly born has *de facto* disappeared from the obstetric clinics, although Credé's method is as certain as it is free of danger, the number of the losses of sight has not by any means been diminished in the country as should be expected in view of the great results in the obstetric clinics. And it is really now high time that the general public should get the benefit of this method. It must be to the interest of the State to protect everyone without exception against so serious a disease, and the government not only has the right, but it is its duty, to remove from the blind schools and the communities the expenditures which are necessitated by a preventable disease.

The most interesting computation of the number of blennorrhœa-blind in Germany and other countries was made last year by Prof. H. Cohn of Breslau, and reported by him at the 10th Congress of Teachers of the Blind, held on July 31, 1900.*

He found that among the blind, in the year 1901, 20 per cent. in Germany and Austria, 28 per cent. in Switzerland, and 10 per cent. in Holland, were blind from ophthalmo-blennorrhœa.

When examining the youngest pupils, who had not yet attained the 10th year, and who may, in short, be called children, he found in the German schools, 254; in the Austria, 67; in the Swiss schools, 15 children—of whom 79, 18 and 4 were blind from blennorrhœa; that is, 31 per cent. in Germany, and 27 per cent. both in Austria and Switzerland.

A careful comparison showed that in twenty-five years the

*Have the New Prevention Methods Reduced the Number of the Blind? (From Examination of 500 Eyes in the Silesian School for the Blind.) By Prof. H. Cohn, Breslau.

blennorrhœa had only been reduced from 28 per cent. to 20 per cent.

In the German cities the blennorrhœa-blind vary from 30 per cent. to 0 per cent. The medium is found in Dresden and Frankfort (20 per cent.), and Leipzig (18 per cent).

Things are totally different when considering those under 10 years of age—the childen in the different blind-schools.

At Barby, Soest, Wiesbaden and Würzburg there are no children of that age in the schools. At Braunschweig, Leipzig, Paderborn and Stuttgart there is no blennorrhœa-blind among 15. But at Hamburg, Neukloster, Koenigsberg, Bromberg and Dueren, 9, 12, 15 and 16 per cent. of the children were blennorrhœa-blind. In other institutions the percentage varied from 20 to 50.

Dresden has 40, Nüremberg 37, Frankfort 66, Breslau 70, Stetten 75 and Königsthal 99 per cent. of blennorhea-blind children. This shows that in from six to ten years ago Credé's method was not very often made use of. It is not correct to calculate with the whole number of pupils, but each year the new arrivals should be examined and correct reports be given out by the schools. As, however, we have ascertained that in 1895, 83 out of 2,233 blind children, and to-day 79 out of 2,116 are blennorhœa-blind, this is dreadful. It means that even now 31 per cent. of all blind children are blind from blennorhœa.

There remains a great deal to be done.

This 31 per cent. of blennorrhœa-blind children could have with certainty been prevented from being blind if Credé's method had been employed. For this method is *certain*, *without danger* and *simple*.

With regard to its certainty, it seems to be useless to waste any further words. We want to state that when interrogated by Cohn as to this point, the chiefs of the obstetric clinics of nineteen German universities, without exception, supported Credé, and some with marked enthusiasm. I have myself at different occasions reported on larger series of births of 1,000, 1,300 and 1,600 children, with not a single case of blennorrhœa. And yet, as has been exactly ascertained for years, at Dresden a large number of the parturient women (from 8 to 10 per cent.) suffer from gonorrhœa. A

compilation of a round 6,000 births within the last three years at this clinic has again shown what a sovereign remedy the 2-per-cent. nitrate of silver solution is, since but for a few light cases, this solution has, when Credé's method was rigidly followed, prevented ophthalmo-blennorrhœa altogether.

The same testimony has been given in favor of Credé's method by Schallehn and Runge of Goettingen.

Schallehn reported in 1897* that of 197 infants, during 1888 to 1896, who were treated after Credé, none suffered from the early, and but two from a late infection (8th day). E. Runge† found that from the latter part of 1896 till March, 1902, of 1,000 infants, none showed an early and one only a late infection. This case was an extremely light one, as it was cured in two days. In the Goettingen obstetric clinic there were then in 1917 cases, of early infection none; of late infection but two (0,156 per cent.), yet at times 20 per cent. of the parturients were gonorrhoic.

The Credés method was, however, changed in such a way with the last 928 infants that a 1-per-cent. silver nitrate solution was substituted for the 2-per-cent. one. With this there were 0 per cent. of early and 0,108 per cent. of late infections, which shows that it is effectual.

It has been claimed that this method is not without danger, and should, therefore, not be generally recommended, especially not be given into the hands of the nurses. Cohn says: "There were complaints made at certain obstetrical clinics that the drop irritated the eye too much and produced a stronger or lighter catarrh—a silver catarrh, so-called—and that thus a blennorrhœa might be simulated. I, therefore, asked 110 oculists whether they had seen any lasting damage caused by the drop. But two answered in the affirmative; in one case the family physician and in the other the midwife had poured too much solution into the eyes. Seventy-nine of the oculists supported Credé; 39 wanted this method to be made compulsory. Fifteen only spoke against it, fearing the awkwardness of the midwives. In consequence, milder remedies were tried, in order to avoid the silver catarrh."

It was especially Cramer's communications from the ob-

*Arch. f. Gynæc., 54, I.

†Berl. Klin. Wochenschr., 1902, No. 20.

stetric clinic at Bonn which described this silver-catarrh as a great drawback of Credé's method. The importance of this question prompts me to scan these communications a little further.

Led by the diversity of opinions among certain physicians as to the detriment or innocuity of the 2-per-cent. silver solution, Cramer proceeded to examine the silver-catarrh more exactly. He thought it necessary at first to find out by observing series of cases, treated uniformly, whether and for how long an eye would react. Secondly, why, with a uniform technique, the eyes of different children should react so intensely differently. Third, to find out whether and for how long the silver-catarrh is an aseptic one—that is, from what period on bacteria could be found in the secretion, and what kind of bacteria might cause further secretion.

In order to answer these questions, he treated 300 newly born with silver nitrate in the period from April 1 to December 1, 1898. In a continuous series of 100 infants, the clinical course of the silver-catarrh was more especially observed and noted down.

"The technique in all cases was the following: After one drop of a 2-per-cent. solution of silver nitrate had been dropped into the inner canthus, while the infant lay on its back, the lids were separated and the fluid made to flow over the eye by turning the head. By means of shutting and opening the lids, the solution was spread in the conjunctival sac, and then the outer surface of the lids and the surroundings were wiped with dry cotton."

What were his observations with this method, which, as we will see later, differs essentially from Credé's method?

The following are Cramer's own words:

"The time between the instillation and appearance of the catarrh varied. Severe irritations were seen earlier, then those of lighter degree. Often but two hours after the instillation a florid purulent secretion from the conjunctiva was present."

The following refers to the quality of the reaction: "For infants the secretion must be called enormous. In these the secretion ran in streams over the face of the infants and into the pillows, which were soaked with it. The discharge had all the characteristics of the severest blennorrhœa; at

times it contained blood. When the agglutinated lids were separated the secretion flew out in an arc. Twenty-five infants showed a very severe reaction; the conjunctival sac was filled with pus, which oozed out strongly between the lids. There was also at times some blood. In 31 infants the reaction must be called a severe one.

"These three groups with severe reaction concern 60 infants. Of the other 40, 20 showed a moderate, 10 an insignificant, and 6 a very insignificant reaction. In four infants no reaction was seen."

I must confess that, in my observations of now 30,000 infants, I have never seen such a severe reaction and with such frequency following the employment of Credés method. Repeated questioning of my assistants and head-nurse, for fear I had overlooked it, has also proven that they have never seen such severe reactions. It must be added here that the technique of instillation which Cramer used in his cases is certainly not the one exactly described and recommended by Credé.

In my opinion a great deal depends on this. It is clear that if such enormous reactions as Cramer described should often follow, a general introduction of Credé's method could not be thought of. To us, however, such things are absolutely strange; neither have other clinics reported similar observations.

Credé directs very minutely that after the infant has been bathed an assistant or the accoucheur himself is to open the eye with two fingers of the left hand, and to instill from a glass rod one single drop of a 2-per-cent. silver nitrate solution on the cornea in such a manner that the lower arc of the drop touches the cornea, and that then the eye is to be allowed to close itself and nothing further be done.

Cramer, however, instills a drop into the inner canthus, then pulls the lids apart to let the drop flow over the eye, and then opens and shuts the lids in order to spread it in the conjunctival sac.

By this means he rubs the silver solution into the cornea and conjunctiva. That such a manipulation, which is foreign to Credé's instruction, cannot be made without injury in an infant's eye, and must even be held responsible for the extra-

ordinary results in his 300 cases, I do not in the least doubt.

If Cramer should treat 300 cases exactly according to Credé, I am convinced that he will find what we, Fehling at Basel and Halle,* Runge, Gusserow, and others have found, and that he will see no such severe consequences as he has described, and that he will no longer know such a traumatic conjunctivitis.

In thus unconditionally refuting the observations of Cramer concerning the silver-catarrh as a result of Credé's method, I can but say from my own observations, made in my own clinic in a period of nineteen years, and in unison with Fehling and others, that this method is as certain as it is without danger.

And it is an extremely simple method. It calls for nothing but a bottle containing a one to two per cent. solution of nitrate of silver and a little glass rod; furthermore, sufficient training, which the clinics and midwives' schools supply, and a certain dexterity.

Before going further, I must mention an article by L. Hirsch on the origin and prevention of blindness, in which the author speaks in detail on blennorrhœa of the newly-born and Credé's method.

Several sentences in this article must not remain unchallenged.

On page 511 (*Klinisches Lehrbuch*, VIII., 4), he says: "Since, in spite of a careful application of Credé's method, blennorrhœa cases, while considerably reduced in numbers, have not altogether disappeared from many public lying-in institutions, it is clear that Credé's method is not an absolutely certain means for the prevention of this disease." This is not quite true. Based on the excellent results of Runge, Fehling, and others mentioned above, and my own experience, I can answer that if Credé's method is employed exactly, and not with any changes, which some still call Credé's, and, further, if this method is not only exactly applied in the clinics and midwives' schools, but its application by midwives and pupils is untiringly watched by the assistants, and, further, if the

*S. Koestlin. Werth der Credéschen Methode zur Verhuetung der Ophthalmoblennorrhœa neonatorum und ihre allgemeine Unfehlbarkeit. Arch. f. Gyn., 50, 257.

slight irritation which now and then does appear after the instillation is left alone and not manipulated and "treated," the results in the clinics and lying-in institutions are certainly brilliant, and blennorrhœa of the newly-born is likely to disappear almost altogether.

The most important factor in the prophylaxis is the room in which the parturients are confined. Over-confidence is at all times bad in obstetrics, but it leads to the greatest disappointments if Credé's method is not carefully applied. Whenever, without variation, a drop of a one or two per cent. solution of silver nitrate is instilled into the eye, according to the rule, no blennorrhœa does result. This conviction nobody can rob me of, as long as I am not shown to the contrary.

I can maintain this standpoint the more vigorously, since I have repeatedly gone through periods of the most varying results in my own clinic. Many months, once even a whole year, passed without one single case of blenorrhœa or mucopurulent catarrh on the fifth or sixth day of the puerperium. During these periods no fewer gonorrhoic women were confined, but the two obstetric wards were in the hands of assistants and midwives, who watched or did everything with especial care.

Then, again, there were periods in which unfortunately once in a while a blennorrhœa or a late gonococcus conjunctivitis was reported. A careful investigation never failed to find the cause. Either the medical control was not careful enough, for lack of interest or energy. It was evident in a number of parturients that the results were not as good as they had been in the previous half-year, in which another assistant had charge of the ward. Asepsis and antisepsis, as well as watchfulness and circumspection, are not the same for one as they are for another? Or the midwife had forgotten the instillation, or had not done it according to the rules. When these conditions were remedied, we regained at once a perfect quiet, and no blennorrhoic infants had to be treated.

Hirsch adds: "Induced by Credé's successes, one might think of introducing his method as a general obligatory one for all infants. Three things, however, militate against this: First, the midwives are not, as a whole, sufficiently trained to apply this method *lege artis;* in the country there are many

midwives who come from small schools, and who have never seen it employed, much less have employed it themselves."

This objection is not valid, and has been exhaustively refuted by Koestlin (*Arch. f. Gyn.*, 50). Midwives are allowed to catheterize, to make tamponade, to rupture the membranes, and to do many other things—in Prussia, even to make a version. And yet they should not be able to learn Credé? This extraordinary simple manipulation which cannot be compared with the seriousness of a version or forceps delivery.

In my clinic the pupils are taught this method, they employ it themselves under supervision, and we have no blennorhœa since then. What is possible in our clinic can be done in others. It only needs the same care, exactness and love for the thing.

"The second objection," says Hirsch, "which is to be made to a generalization of this method is, that it is not unconditionally innocuous. From the experience of nearly all authors it causes an irritation, which is often disagreeably prolonged or passes over into a true inflammation (Cramer).

From what we have said above, the reference to Cramer is untenable, since he made use of another than Credé's method. We must, however, acknowledge that Credé's method does in fact now and then (as Koestling and Fehling have also stated) cause in the first 24 to 48 hours a slight irritation, so that especially in prematurely-born infants, the eyelids are a little congested and secrete a trace of discharge.

This occurs, however, but rarely and usually disappears in a few hours. I may even say, this hardly ever occurs, if instead of a 2 per cent. a 1½ or 1 per cent. solution is used, which as Runge has shown, acts with equal absolute certainty.

During the visits to the puerperæ I always show the students a series of infants, usually from 18 to 20 who have been born during the preceding three days, and by far the most of these do not show even a trace of a reaction. Where such an irritation is produced, it disappears by itself. We certainly never treat it. The infants are bathed as usual, and we soon see that their eyes are clear, and open and shut spontaneously.

When Hirsch adds that in one case (Uhthoff's clinic)

Credé's method caused an opacity of the cornea, and that Elschnig has seen the same thing occur twice in an obstetric clinic, I can only maintain that in my 30,000 cases I have never seen anything like it, and that in those cases the real method of Credé had certainly not been employed.

The third objection of Hirsch is the following: "Finally, the number of those threatened with blennorrhœa is much too small to wantonly generalize a method which may bring detriment rather than good to those not endangered." This objection has no foundation to go on, first before no damage can be spoken of, and secondly because it is a perfectly unwarranted statement that the number of those threatened with blennorrhœa is too small. Of the parturients in the Dresden clinic on an average 10 per cent. are gonorrhoic. At Leipzig the conditions are probably no better. The average number of births per year is here about 2,200, at Leipzig about 1,500, which would give alone for these two institutions 370 gonorrhoics. Is this not an awfully high figure? To these we must add the births at the polyclinics and of private practice, in which gonnorhœa is not absent by any means. But, no matter what among these the percentage may be, in what is a little irritation of some eyes treated by instillation and its certain safety from blennorrhœa, when compared with the disease itself and its uncalculable consequences, with the possible loss of an eye, with the annihilation of the joys of life and the deep sorrows and heavy sacrifices of the parents of such unfortunates?

I again return to my dictum that Credé's method is certain, without danger and simple.

In explanation of what I have said, I may mention the year 1898 in my clinic* in which 2,282 women were confined. When the still-born, inclusive of abortus cases, and those infants who died in the first few days of life are deducted, there remain 2,146 infants, two of whom suffered from blennorrhœa, that is 0.14 per cent.

(Continued next issue.)

*Dr. Schwarz, of Vienna, outdoor assistant, has gone over the books of several years with the greatest care, for which I wish here to thank him.

MEDICAL SOCIETIES.

FIFTY-THIRD MEETING OF THE AMERICAN MEDICAL ASSOCIATION.*

Held at Saratoga Springs, N. Y., June 10 to 13, 1902.

SECTION ON OPHTHALMOLOGY.

(Continued from last issue).

SEVENTH SESSION.

A. A. HUBBELL (Buffalo) delivered an address commemorative of the one hundred and fiftieth anniversary of the publication of the first description of the cataract operation, by Jacques Daviel, and the beginning of the modern operation of cataract. He said it was somewhat divergent from the ordinary scientific program, but he thought it well sometimes to pause and look back at these things purely from an historic standpoint; that we had honored Helmholtz by public celebration and public tribute, and had honored Donders, but had perhaps forgotten the man who originated the modern operation for cataract, Jacques Daviel. The address was not a history of cataract operation, except as it touched the life of Daviel, which it reviewed from the beginning.

TEST OBJECTS AND TEST LETTERS.

ELMER G. STARR (Buffalo) considered the importance of painstaking care and accuracy in determining the refraction of the eye, and referred to its great value for the relief of many disturbing conditions; a slight error in the measurement of the refraction might render valueless the attempt to relieve the patient. One of the most serious objections to the test card ordinarily employed was that the glare of light reflected from the white background produces retinal fatigue. He spoke of the effects of irradiation in the use of the card with black background, which was to increase the apparent size of the object and lessen the sharpness of outline. The writer showed a series of letters he had devised, which were

*American Medicine.

in color on a ground of another color, the colors used being yellow and blue, which are complimentary. The glare of light and retinal fatigue is lessened, and the letter is strengthened and made more brilliant. Yellow is used for the ground, and blue for the letter, which, being complimentary, brings out the letter more sharply defined.

Discussion.—Gould said that the black background, being a non-stimulating color to the retina, did not tire and fatigue it, especially when accommodation is paralyzed. $^{20}/_{10}$ could be read easily with it, because the retina acts physiologically. He thought Starr's ingenious device deserved further consideration.

Gardiner (Chicago) suggested that the irridiation spoken of by Starr might be due to uncorrected astigmatism.

Randall (Philadelphia) called attention to the importance of proper regard for the size of the letter, and said that ninety-nine out of one hundred make it according to the tangent of the angle, while twice the tangent of one-half the angle was the correct thing.

Starr said, in closing, that as to the suggestion of the irridiation being due to uncorrected astigmatism, it was, of course, worse in that condition, but he found it troublesome at all times.

Metastatic Sarcoma of the Choroid.

Meyer Wiener (St. Louis) spoke of the extreme rarity of the disease and the scant literature upon the subject. He described a case occurring in his practice, considering the probable location of the primary growth and the organs involved. There were multiple metastatic lesions of the choroid in both eyes. He did not get any history from the patient, did not see the case until post-mortem, and had simply reported the case because of its rarity. The growth probably started in the mediastinum, and corresponded in many ways with a similar case reported by de Schweinitz.

The Use of a Mydriatic After Forty-five Years of Age.

H. M. Starkey (Chicago) said a mydriatic was often required for proper estimation of refraction with the ophthal-

moscope and for examining the media and fundus. He said there was absolute necessity for cyclopegia in certain cases before the refraction could be properly determined, and advised cyclopegia in other cases, not only for purposes of refraction, but for the relief of retinal and choroidal hyperemia and irritation. He thought that while cyclopegics were required in fewer and fewer cases as life advanced, no age could be arbitrarily fixed beyond which they should not be used; but they should be used with caution after the age of forty, because of the greater danger of glaucoma in the elderly; and, of course, in certain conditions should not be used at all.

KNAPP (New York) spoke of the use of a cyclopegic after the operation for glaucoma, where in healing there occurred a number of fine filiform adhesions; he used a drop of atropin on the first and second days. Had never seen any unpleasant result. He considered that the danger of producing glaucoma was less with eucain than with homotropin or atropin.

WEEKS (New York) said the late Dr. Noyes used atropin after iridectomy as a routine practice, and kept it up for two or three days, or until the wound was well closed.

RISLEY (Philadelphia) said it had not been his habit to use a mydriatic after iridectomy for glaucoma, and thought it might not be free from danger.

HIGGINS (Cortland, N. Y.) thought it was an unfortunate thing that patients referred any eye symptom that might arise for months or years after the instillation of a mydriatic to its use; but thought also that in persons past middle life these symptoms were not altogether imaginary.

MCREYNOLDS (Dallas, Texas) said he always used a mydriatic after operation for glaucoma and glaucomatous cataract, and considered it a reasonably safe thing to do.

YOUNG (Burlington, Iowa) said he believed that the use of a cyclopegic in persons after forty-five for refraction was especially indicated in strong, robust people, where the power of accommodation was excessive, and did not think these people at all liable to develop glaucoma.

LIPPINCOTT (Pittsburg) said in his early practice he had used mydriatics in persons past 45 more frequently than he

did now, and had seen ill effects from their use in several cases.

JACKSON (Denver) said mydriatics should not only be used with caution after the age of 40, but should be used with caution always. The only case of glaucoma he had seen produced by a cycloplegic was in a woman of 25, and he had no doubt that if the history had been carefully looked into before using the drug a diagnosis of glaucoma might have been made. He considered that it is often as necessary to use it after the age of 50 as before.

BATES reported a case in which atropin had been used in patient aged 18, and where the pupil failed to contract, and remained dilated for six months after its use.

STARKEY said he had found it necessary to use stronger cycloplegics and for a longer time in older people than in younger ones in order to get relaxation.

THE DECENTERING OF LENSES FOR NEAR WORK.

G. C. SAVAGE (Nashville, Tenn.) said that if there were no muscle error, presbyopic lenses should be properly centered, so placed that the visual axes would pass through the optical centers. In orthophoria the placing of the presbyopic lenses with their optical centers low would be preferable to placing them high. In simple esophoria both presbyopic lenses should be decentered out, and equally, or what would be the same thing, the frames should be made wider than called for by the pupillary distance. In esophoria complicated with hyperphoria of one eye and cataphoria of the other, the decentering of presbyopic lenses should be confined to the lens for the esohyperphoric eye and should be down and out. In simple exophoria both presbyopic lenses should be decentered directly in, and equally, or the frames should be made narrower than indicated by the pupillary measurement. In exophoria complicated by hyperphoria of one eye and cataphoria of the other, the decentering should be confined to the lens for the exocataphoric eye and should be up and in. In exophoria complicated by hyperphoria of one eye and cataphoria of the other, and plus cyclophoria the decentration should be confined to the lens for the exocataphoric eye, and should be up and in. In hyperphoria of one

eye and cataphoria of the other with or without plus cyclophoria, the whole prismatic effect should be given to the lens for the hyperphoric eye; decentering should be down. In double hyperphoria both lenses should be decentered down. In double cataphoria both lenses should be decentered up.

The Genesis and Treatment of the Myopic Eye.

S. D. Risley (Philadelphia) considered the origin of the myopic eye as to heredity, disease, physiologic and sociologic evolution and discussed the clinical aspects of myopia in its higher degrees and considered the various methods of treatment.

Discussion.—Jackson (Denver) said that in the cases of high myopia he had seen nothing pointed to heredity; none of them had myopic parents. But they showed marked evidence of ill health and disturbance of nutrition. He thought the great majority developed during school life. He called attention to the importance of early correction of the refraction as a means of prevention of the development of high myopia, and deprecated the wearing of undercorrecting glasses.

Risley said, in closing, that he advised the wearing of undercorrecting glasses only in-doors and where the tendency to progression was marked; otherwise they are sure to have headaches and discomfort.

The Need For Correcting Ametropia After Middle Life.

C. M. Culver (Albany, N. Y.) said that even with Donders' liberal definition of presbyopia most of it begins at the time known as middle life. That it is for presbyopia that most glasses are worn. He considered ametropia as worthy of correction at any time of life and that to try to relieve presbyopia without correcting attendant ametropia is like building on a foundation of quicksand. He considered that astigmatism changes after middle life more than before.

Discussion.—Jackson (Denver) agreed with the writer that the correction of ametropia after middle life is just as important as at any other time.

Associated Movements of the Eyes and Head.

Wm. C. Posey (Philadelphia) considered the physiologic movements, including the many and various movements which the head makes through the medium of the neck-muscles. He said there were movements of the head and eyes which were abnormal and which, though symptoms of the same disease and having the same origin, are not related in the sense of being dependent upon one another. Under this class he included the movements of the head and eyes which occasionally occur simultaneously in disseminated sclerosis, paralysis agitans and other diseases of the cerebrospinal system. Then there are movements of the head that are compensatory of some failure of one or more of the extracular muscles to properly perform their function, and under this class he included the position which the head assumes after paralysis of the various ocular muscles. Other movements of the head and eyes, abnormal in character, seem to bear a direct relationship with one another without being compensatory. Under this heading he considered the subject of conjugate deviations, miners' nystagmus and head jerking in infants. The writer reported two cases of synchronous movements of head and eyes due to a central cause.

A vote of thanks was extended to the chairman and secretary of the section for their very efficient work, which had resulted in one of the best meetings the society had ever held. A vote of thanks was extended to Haab for his kindness in coming to address the section. Haab briefly thanked the section for having conferred the honor upon him of making him a member and said he was very proud of it and would try to make a worthy member. He regarded the honor as the coronation of all the kindness he had met with in this country.

The Committee on Nomination.

Chairman, John E. Weeks, New York; secretary, Frank Todd, Minneapolis, Minn.; representative in the House of Delegates, Frank Allport, Chicago.

ABSTRACTS FROM MEDICAL LITERATURE.

By W. A. SHOEMAKER, M.D.
ST. LOUIS, MO.

MONOCULAR NYSTAGMUS.

Dr. Ernst Heimann (*Klinische Monatsblätter für Augenheilkunde*, September, 1902, p. 99). Since in the literature of monocular nystagmus are grouped together many varieties which do not make a congruous picture, Dr. Heimann thinks it would be useful to give a statement of the prominent etiological influences which produce this condition. True monocular nystagmus can be spoken of only when there is not a trace of the condition in the sound eye. Schrapringer believes that there is scarcely such a thing as pure monocular nystagmus, but, to Dr. Heimann, he seems to have gone beyond the mark in this statement. Monocular nystagmus certainly occurs, and not so rarely.

1. In eyes with strabismus, and a high degree of amblyopia.
2. As an accompanying symptom of nervous and cerebral affections.
3. As a transitory affection with or after *spasmus nutans* in children.

Monocular nystagmus in an amblyopic and squinting eye is always developed in infancy, and affects the eye to such a degree that fixation with it is impossible. It is distinguished from the other forms of nystagmus by the fact that most of the movements of the eye are less rhythmical, that is, more of the action of the pendulum and a trembling movement of the eye takes place. The oscillation is irregular and relatively slow. In a case observed by Alfred Graefe, the nystagmus disappeared when the good eye was covered, and an attempt made to secure fixation with the poor one.

But in a case observed by the author, nystagmus remained in spite of fixation. The patient was a mechanic, eighteen years of age, and had squinted since his early childhood. There was convergent strabismus on the right side, of three millimeters. In that eye vision was perception of light. Left normal. In binocular and monocular fixation the right eye moved upward and outward. The strabismus was successfully treated by advancement of the right externus.

Monocular nystagmus, as one of the symptoms of nervous and cerebral diseases, has been described as occurring after inflammation of the spine, traumatisms affecting the skull, syphilis of the brain, multiple sclerosis, epilepsy and severe hysteria. In such cases monocular nystagmus may appear at any age. Naturally, on inquiring into the existence of this disease, one must always depend upon the statements of the patient, which are not usually accurate, since a transitory nystagmus could be easily overlooked.

The third form of monocular nystagmus, as has been said, is in *spasmus nutans*, in which the head of the little patient moves rhythmically and in a vibratory fashion. The movements may be horizontal, vertical or diagonal. The movements of the globe follow each other exceedingly rapidly. One hundred and twenty movements in a minute have been counted. The prognosis is thoroughly good, but there may be a recurrence of the symptom. Dr. Heimann remarks that the hypotheses as to the cause of this nystagmus are manifold. Theoretically, at least, we admit the situation of the disease may be first in the muscles of the eye, second in the nerves supplying these muscles and third in the visual centres.

Raehlmann has placed both the first situations in the background by his excellent article on the neuropathic nature of all varieties of nystagmus, but this view is not everywhere accepted. The general one is that of Alfred Graefe, which is, that in consequence of the weakness of the visual impressions made upon the eyes, a weaker sensory irritation acts upon the cerebral visual centres, and consequently the optic motor centre is placed in a subnormal state of excitement. Graefe also believes that there is no congenital nystagmus, but that the disease is always acquired. Dr. Heimann does not take part in this dispute as to the physiological and psychological conditions of the visual act. (Following this there is a discussion of the various hypotheses as to monocular nystagmus). The author remarks that there is very little to be said as to the treatment. In the second group of cases, the nervous and cerebral affections causing the trouble are to be treated. In *spasmus nutans* a bright room, calomel, phosphorous and warm baths should be considered as remedies.

In the treatment of monoculor nystagmus occurring in

strabismus, surgical interference is of course required. Several authors have reported that lessening or even the cessation of the monocular nystagmus has been observed after operations on the muscles of the eye, for the purpose of removing the squint. Dr. Heimann, as has been stated, has also observed this in a case here reported, where, by such an operation, the globe is, to a certain degree, pushed back into the orbit, which can be recognized in the accompanying ptosis, after a vigorous advancement. By this pushing of the globe into its natural cushion, a greater tension is made between the squinting muscle and its antagonist, which may well explain the disappearance of the nystagmus.—*The Post Graduate*, Oct.

THE RESULTS OF NITRATE OF SILVER IN THE NEW BORN.

Ernest Runge (*Berliner Klinische Wochenschrift*, May 19, 1902) reports 1,000 cases which were treated with a 2-percent. solution of silver nitrate, preventing the immediate development of ophthalmia in every instance. In one case ophthalmia developed in the second week. The author does not agree with Ludwig Hirsch, who thinks nitrate of silver does not give uniformly good results in preventing ophthalmia neonatorum.

The instillation should be practiced not later than one hour after birth, as the results are not nearly so good if the remedy is used later. In reporting cases, it is greatly to be desired that the time of instillation be noticed.

THE MODERN TREATMENT OF PTERYGIUM.

F. B. Loring (*Medical News*, August 2) describes the new operation for pterygium, devised by A. Coe, and reports complete success in the twenty-two cases treated by this method. The instruments needed are an alcohol lamp and a platinum wire, having a hook about three and one-half millimetres wide and one thick, mounted on a wooden handle. The hook is heated to a white heat and the bottom of the convexity pressed against the point at which the apex of the pterygium protrudes above the surface of the cornea on the pupillary side, and then elevating the handle brings the rest of the hook to bear in a direction parallel to the axis of the growth, from the apex to the base. One application is generally sufficient if thoroughly done.